

ASSISTANT RESEARCH PHYSICIST

DEPARTMENT OF PHYSICS *UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN*

The Nuclear Physics Laboratory of the University of Illinois at Urbana-Champaign has an immediate opening for an Assistant Research Physicist. The faculty and staff of the Laboratory pursue experiments involving design, construction and testing of equipment currently including superconducting magnets, low-temperature apparatus and a variety of different types of particle detectors.

Qualifications

A bachelors' degree in physics or a related area is required; some experience with one or more of CAD systems, cryogenics, electronics, machine-shop practice and/or particle detectors is also required. The successful applicant must have a proven record of being able to develop new skills in one or more of these areas.

Responsibilities

The position of Assistant Research Physicist (ARP) in the Nuclear Physics Laboratory of the University of Illinois at Urbana-Champaign provides technical support for the activities of the faculty and staff of the Laboratory. The activities of the laboratory currently comprise experiments at major research laboratories around the world: BNL (New York), DESY (Hamburg, Germany), FNAL (Illinois), Jefferson Lab (Virginia), MAXLab (Lund, Sweden), PSI (Zurich, Switzerland) and ORNL (Tennessee). The ARP participates in design, fabrication and testing/commissioning of the experimental equipment associated with these activities, including both mechanical and electronics components. The research equipment currently includes a large superconducting magnet, low temperature NMR apparatus as well as numerous types of particle detectors including scintillators, calorimeters and wire chambers. The ARP typically works in a group with two other support personnel in addition to the students and staff of the laboratory. In this environment, the ARP must be continuously willing to develop new skills as the Laboratory's projects develop.

The duties of the ARP may include certain aspects of the full range of jobs associated with developing new research equipment. At the design stage, the ARP may, based on physics-driven criteria, adapt and/or combine features of apparatus constructed by other groups for related purposes. For example, the ARP may adapt existing detector or cryogenic refrigerator designs for our experiments. The design work may involve development based on published technical articles, some analytical calculation as well as implementation in modern CAD systems such as Autodesk Inventor for mechanical components or standard PC-board software for electronics components. The ARP is strongly coupled to apparatus fabrication, including direct construction of critical and/or highly specialized components in-house, distribution, monitoring and acceptance of jobs sent to outside vendors as well as acquisition of commercial devices. The ARP is also responsible for assembly of the final apparatus from these components. Familiarity with standard machine-shop and electronics-shop processes is an important skill for the ARP

for both the design and fabrication aspects of the job. Lastly, the ARP is often involved with testing and commissioning the completed apparatus. This often involves interfacing apparatus with PC-based computer acquisition systems such as LabVIEW. The testing and commissioning process usually involves acquiring data, performing some analysis and solving a variety of problems to bring the apparatus to the working stage.

Salary

Commensurate with experience and qualifications. The ARP is a full-time, 12-month Academic Professional position reporting to Dr. Steven Williamson.

Starting Date

As soon as possible after the closing date

Applications (preferably via email) including a statement of purpose, CV and the names of three references should be sent to:

Audra Weinstein
Department of Physics
1110 West Green
Room 203 Loomis, MC-704
Urbana, Illinois 61801
audra@uiuc.edu

Closing Date

To ensure full consideration, applications must be received by September 27, 2006.

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